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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/160,665	09/25/1998	KAZUYA KURIYAMA	M1866-18	6619

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DARBY & DARBY P.C.  
P. O. BOX 5257  
NEW YORK, NY 10150-5257

EXAMINER

ELVE, MARIA ALEXANDRA

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 09/09/2003

15

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/160,665

Applicant(s)

KURIYAMA ET AL.

Examiner

M. Alexandra Elve

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 & 13-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

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## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3- 8, 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US Pat. 3,991,929).

Smith teaches coating and bonding of metals. The inside of a titanium sheath is coated with a tinning metal or alloy by heating. The coated sheath is then bonded by, for example, soldering to a metal article such as copper (abstract & col. 1, lines 45-62). It is preferred to use tin itself as the tinning metal. A wide range of tinning alloys may be used. Suitable tinning alloys include binary alloys containing a major proportion of tin and a minor proportion of bismuth, cadmium or zinc; other suitable alloys include ternary tin-containing alloys (col. 2, lines 22-36). The temperature at which the sheath of titanium (or an alloy thereof) may vary over a wide range, but it is generally preferred to use a temperature in the range from 350 to 450°C (col. 2, lines 66-68 & col. 3, lines 1-3). The coating may be enclosed in the sheath and bonding may be carried out in a

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furnace. The sheath is stopped at one end, filled with the tinning metal or alloy and then inserted into the furnace. The sheath and its contents are heated until the tinning metal or alloy is melted. The bonding of the sheath of titanium to another metal, preferably a pretinned electrically conductive metal, such as copper (col. 3, lines 10-40).

Smith does not teach the exact processing temperature or the form of the copper material, that is a foil or a powder as instant claims.

It is well settled that where patentability is predicated upon a change in condition of prior art process, such as temperatures, the change must be at least "critical", that is, it must lead to a new and unexpected result. The applicant has the burden of providing such proof of criticality. Note In re Aller et al. 105 USPQ 223. Absent proof of such criticality in the present instance, it would have been obvious to one of ordinary skill in the art at the time of the invention to use temperature which melt the tin and titanium/copper eutectic for optimizing the joining of the sheath and its contents.

The method of making a novel and unobvious product or use of a different starting material may be obvious (that is, foils or powders or sheets and so forth) if the method is otherwise the same. *Ex parte Orser* 14 USPQ 2d 1987 (BPAI 1990); *Ex parte Kifer* 5 USPQ 2d 1904 (BPAI 1988); In re Durden 226 USPQ 359 (Fed. Cir. 1985); In re Payne 203 USPQ 245; In re Kanter 158 USPQ 331 (CCPA 1968); In re Hoeksema 141 USPQ 733 (CCPA 1964); In re Larsen 130 USPQ 209 (CCPA 1961); In re Leshin 125 USPQ 416.

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Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over the rejection of claims 1, 3-8 & 13-15, above and further in view of Kline (US Pat. 4,411,762).

Kline teaches the bonding of titanium on to a copper substrate, with the possible presence of a third material, in order to form an electrode. A eutectoid is formed between the titanium and the copper. The process is conducted in an inert atmosphere. Argon, helium and in some cases nitrogen are suitable inert materials (col. 3, lines 20-33; col. 4, lines 19-28 & 64-68; col. 5, lines 1-23; col. 7, lines 1-7 & 28-50; col. 12, lines 3-13). It would have been obvious to one of ordinary skill in the art to use the processing environments, as taught by Kline to the Smith process because of enhanced bonding due to the negation of contaminants.

### ***Response to Arguments***

Applicant's arguments filed June 11, 2002 have been fully considered but they are not persuasive.

Applicant argues that an interposing welding Cu, such as tin is not taught. It is not clear what is meant by an example of welding Cu is tin. Copper and tin are different elements. An alloy of tin and copper may be formed or a eutectic of these elements may be formed, but these are not welding copper. Again it is not clear what the applicant means in these statements. The prior art teaches copper and titanium bonding and the

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use of tin in some applicants. Furthermore, the method of making a novel and unobvious product or use of a different starting material may be obvious (that is, foils or powders or sheets and so forth) if the method is otherwise the same. *Ex parte Orser* 14 USPQ 2d 1987 (BPAI 1990); *Ex parte Kifer* 5 USPQ 2d 1904 (BPAI 1988); In re Durden 226 USPQ 359 (Fed. Cir. 1985); In re Payne 203 USPQ 245; In re Kanter 158 USPQ 331 (CCPA 1968); In re Hoeksema 141 USPQ 733 (CCPA 1964); In re Larsen 130 USPQ 209 (CCPA 1961); In re Leshin 125 USPQ 416.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Norris (US Pat. 4,715,525).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is (703) 308-0092.

The examiner can normally be reached Monday to Friday from 6:30 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn, can be reached on (703) 308-3318. The fax number for the group is (703) 872-9306

Any inquiry of general nature to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 308-0661.



M. Alexandra Elve  
Primary Examiner  
Technology Center 1700

September 5, 2003.